

What is claimed is:

1. A glass touch panel comprising a pair of transparent glass substrates, each having a transparent conductive film and also opposed to each other at the transparent conductive film surface, wherein the upper transparent glass substrate as a touch input part and the lower transparent glass substrate are bonded by an adhesive mixed with hygroscopic fine particles.

2. A glass touch panel as in claim 1, wherein each of the hygroscopic fine particles has a diameter of $50\text{ }\mu\text{m}$ or less.

3. A glass touch panel as in claim 1 or 2, wherein the hygroscopic fine particles are mixed to the adhesive with a weight ratio of 10% or less.

4. A glass touch panel as in any one of claims 1 to 3, wherein a silver electrode mixed with a glass fiber is disposed at a predetermined position on an outer periphery of the transparent conductive film.

5. A glass touch panel as in claim 4, wherein the glass fiber is mixed to the silver electrode with a weight ratio of 10% or less.

6. A glass touch panel as in claim 4 or 5, wherein a silver paste having a electric resistivity of $5.0 \times 10^{-4}\text{ }\Omega\text{cm}$ is used for the silver electrode.

7. A glass touch panel as in any one of claims 1 to 6, wherein the adhesive is a thermosetting or room-temperature setting epoxy type sealant or UV setting acrylic type sealant.

8. A glass touch panel as in any one of claims 1 to 7, wherein a light transmittance is 85% or more.

9. A glass touch panel as in any one of claims 1 to 8, wherein an operation temperature is from -30 to 65°C under the condition of 90% RH or less.

10. A glass touch panel as in any one of claims 1 to 9, wherein a storing temperature is from -40 to 85°C under the condition of 95% RH or less.

11. A glass touch panel as in any one of claims 1 to 10, wherein an operation load when a switch is in a conductive state by pressing the upper transparent glass substrate with a test rod having a top end R of 4 mm, a diameter of 8 mm ϕ and a hardness of 60° is from 10 to 200 g.

12. A glass touch panel as in any one of claims 1 to 11, wherein superfine particle dot spacers made of a thermosetting resin, each having a diameter of from 20 to 100 μ m and a height of from 3 to 6 μ m, are disposed at a pitch of from 2 to 4 mm on the transparent conductive surface of the lower transparent glass substrate.

13. A glass touch panel as in any one of claims 1 to 12, wherein the upper transparent glass substrate comprises borosilicate glass or soda glass having a thickness of from 0.15 to 0.3 mm, and the lower transparent glass substrate comprises a soda glass having a thickness of from 0.5 to 3.0 mm.

14. A glass touch panel as in any one of claims 1 to 13, wherein the transparent conductive film is deposited by vapor deposition in a predetermined shape with sputtering or chemical vapor deposition.

15. A glass touch panel as in any one of claims 1 to 14, wherein a rating is 50 mA or less for DC 5V and an insulation resistance is 10 M Ω or more between the upper and lower electrodes for DC 25V.

16. A glass touch panel as in any one of claims 1 to 15, wherein a linearity is ± 3.5 % or less.

17. A glass touch panel as in any one of claims 1 to 16, wherein a bounce by an ordinary finger operation method is 10 msec or less.

18. A glass touch panel as in any one of claims 1 to 17, wherein an electrostatic withstand voltage is 15 kV or more.

19. A glass touch panel as in any one of claims 1 to 18, wherein a dynamic range is from 0 to 0.7 V at the lower limit and from 5 to 4.6 V at the upper limit.

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0 | 0.0000 | 0.0001 | 0.0002 | 0.0003 | 0.0004 | 0.0005 | 0.0006 | 0.0007 | 0.0008 | 0.0009 | 0.0010 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0015 | 0.0016 | 0.0017 | 0.0018 | 0.0019 | 0.0020 | 0.0021 | 0.0022 | 0.0023 | 0.0024 | 0.0025 | 0.0026 | 0.0027 | 0.0028 | 0.0029 | 0.0030 | 0.0031 | 0.0032 | 0.0033 | 0.0034 | 0.0035 | 0.0036 | 0.0037 | 0.0038 | 0.0039 | 0.0040 | 0.0041 | 0.0042 | 0.0043 | 0.0044 | 0.0045 | 0.0046 | 0.0047 | 0.0048 | 0.0049 | 0.0050 | 0.0051 | 0.0052 | 0.0053 | 0.0054 | 0.0055 | 0.0056 | 0.0057 | 0.0058 | 0.0059 | 0.0060 | 0.0061 | 0.0062 | 0.0063 | 0.0064 | 0.0065 | 0.0066 | 0.0067 | 0.0068 | 0.0069 | 0.0070 | 0.0071 | 0.0072 | 0.0073 | 0.0074 | 0.0075 | 0.0076 | 0.0077 | 0.0078 | 0.0079 | 0.0080 | 0.0081 | 0.0082 | 0.0083 | 0.0084 | 0.0085 | 0.0086 | 0.0087 | 0.0088 | 0.0089 | 0.0090 | 0.0091 | 0.0092 | 0.0093 | 0.0094 | 0.0095 | 0.0096 | 0.0097 | 0.0098 | 0.0099 | 0.0100 |